

T. ARMSTRONG.
Invalid Chairs.

No. 140,868.

Patented July 15, 1873.

Fig. 1.

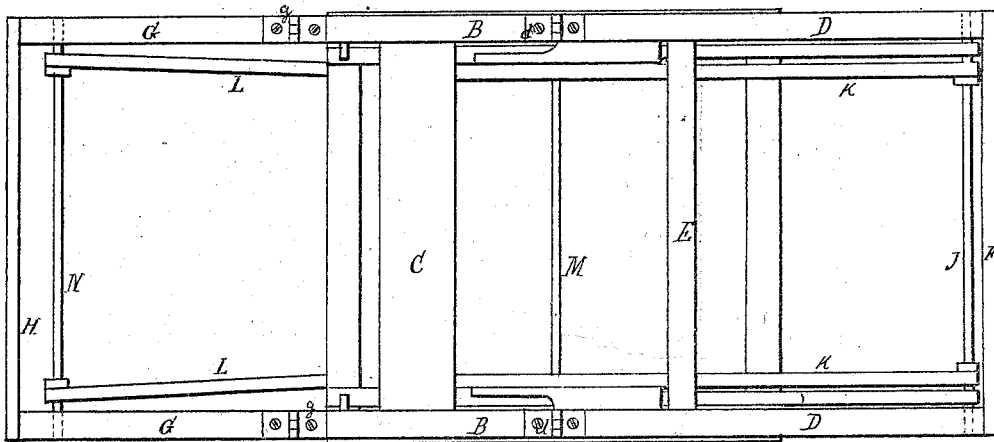
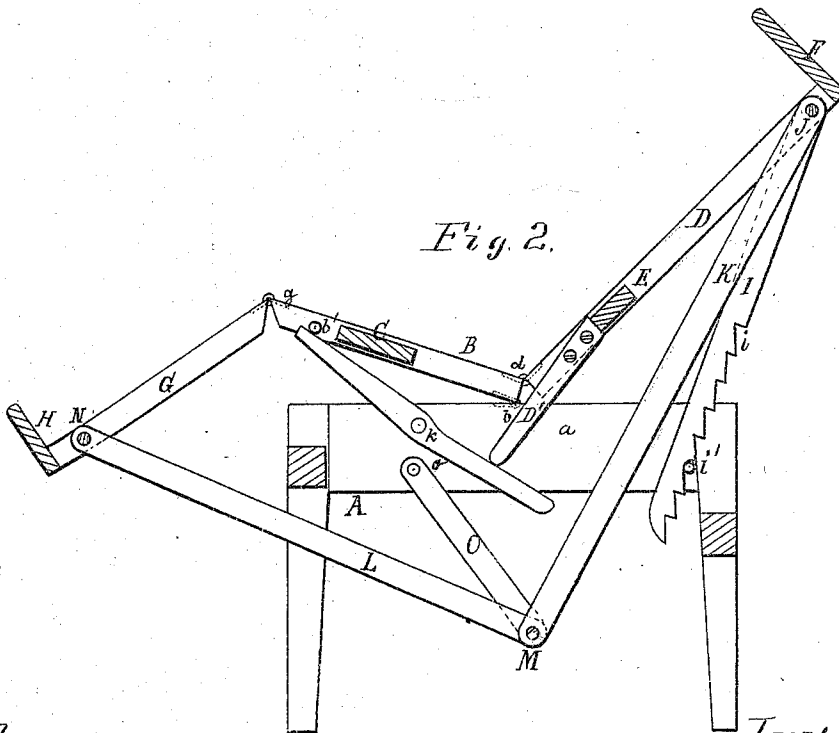


Fig. 2.



Witnesses.
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IMPROVEMENT IN INVALID-CHAIRS.

Specification forming part of Letters Patent No. **140,868**, dated July 15, 1873; application filed June 14, 1873.

To all whom it may concern:

Be it known that I, THOMAS ARMSTRONG, of the city of Sandwich, in the county of De Kalb and State of Illinois, have invented a new and valuable Improvement in Invalid-Chairs; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of my improved invalid-chair by a top view. Fig. 2 is a central vertical section of the same.

My invention relates to invalid-chairs; and it consists of a chair-frame, to which a movable back and seat are hinged with a foot-rest at the end of the seat, which parts are so connected by levers and connecting-rods that the change of inclination of the back effects a change of inclination in the seat and foot-rest, as it is most agreeable to the invalid, thereby accomplishing the object of my invention—viz., the speedy and perfect accommodation of the invalid in every position desired.

In the drawings, A represents a square or oblong frame supported on four legs. A seat, consisting of two levers, B, and a cross-tie, C, is attached by hinges *b* to the centers of the rails *a* of the frame A. To the ends of the levers or bars B above the hinges *b*, the back, composed of the bars D, the cross-tie E, and the head-board F, is attached by the hinges *d*.

The foot-rest, composed of the bars G and the foot-board H, is attached to the above-described seat by hinges G. The back is supported by swinging racks or ratchet-arms I pivoted to the bars D by a cross-rod, J, and sustained by the ratchet-teeth *i* and pins *v* on the frame A.

The back, as described, is otherwise connected with the seat by two elevating-levers, K, on which the arms B rest with the aid of the pins *b'*, and which are, at the other side of their fulcrums *k* on the frame A, operated

by elongations D' fastened to the bars D. There is also a connection between the extreme ends of the seat and the foot-rest effected by two connecting-rods, K, pivoted to the cross-rod J, and to the connecting-rods L by the cross-rod M, the connecting-rods L being pivoted to the cross-rod N, which passes also through the bars G. The cross-bar M passes through the lower ends of the arms O, which are pivoted to the frame A by pins *o*, and which support the cross-bar M.

When the back is elevated the teeth *i* of the ratchet-arm I slide over the pins *v*, the elongations D' of the bars D move down with their lower ends, and thereby depress the rear ends of the levers K and elevate their front ends, thereby elevating the seat. The connecting-rods K are thereby moved upward, which causes the connecting-rods L to move back and swing the foot-rest down.

The invalid in this case is enabled to sit up in a reclined position, with his back and legs almost parallel, which is the most proper and convenient mode of sitting.

If the invalid wishes to lie down the ratchet-arms I are disengaged from the pins *v*, and the back is let down, thereby moving the connecting-rods K down and the connecting-rods L forward. At the same time the ends of the elongations D' move up and the levers K, following up the said motion with their rear parts, move down in front, thereby lowering the seat and bringing the foot-rest, the seat, and the back on a level with each other.

For practical use the described invalid-chair is prepared by stretching canvas or some other strong cloth across the bars D, B, and G to afford a yielding support for the invalid.

The most prominent features of my improved invalid-chair are these, that it only has one fixed connection on each side of the frame, which is effected by the hinges *b*, and that the said connections are made in the place where the center of gravity of the supported person is mostly to be found in a vertical direction above.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an adjustable chair the combination of the frame A, the bars D and B with the hinges *d* and *b*, the elongations D', the levers K, and the pins *b'*, constructed and arranged substantially as specified.

2. In an adjustable chair, the combination

of the bars D B G, the hinges *d g*, the connecting-rods K L, and the supporting-arms O, constructed and arranged substantially as specified.

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Witnesses:

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